Abstract

Title: Possibilities of evaluation and development of aerobic fitness of obese individuals

Aim of diploma thesis: The aim of the research was to verify the 2km walking test to asses aerobic fitness of individuals who are overweight or obese. Furthemore, whether physical activity lasting two month has a significant effect on the reduction of weight and % body fat of overweight and obese individuals.

Methods:. The 2 km walking test was performed at the beginning and end of the intervention. Meanwhile, a group of 6 overweight (BMI > 25 $kg.m^{-2}$) or obese, grade I, II (BMI < 40 $kg.m^{-2}$) adult men and women (aged 21-56) performed the prescribed physical aktivity based on walking on the „treadmill“ and „ride“ on the stationary bike in the Reconditioning Center (at VŠTJ Medicina Praha). Description of physical activity: the duration of at least 40 min., 3 times a week for 2 months, moderate intensity (60 % VO_{2max}) measured by a Sport tester. To calculate the index of aerobic fitness of the walk test, we used the predictive equation of Eurofit for adults, weight and body composition was measured using bioimpedance bipedal Tanita scales, we used a survey to assess the level of lifelong physical activity and for an overall health assesment we used PAR-Q questionnaire.

Results of the study: 2 km walking test identified a significant improvement of aerobic fitness in 5 individuals with overweight and obesity. In the first measurement of the mean VO_{2max} 26±6,9 $ml.kg^{-1}.min^{-1}$, while the second measuring diameter of VO_{2max} 30±6,6 $ml.kg^{-1}.min^{-1}$. Prescribed physical intervention (of 60 % VO_{2max}) influenced by weight and % body fat in overweight and obesity. After the exercise intervention, we recorded significant weight loss in 5 probands. During the first measurement, the mean weight was 95,3±12,6 kg, while the second measurement, the average weight of the entire group was 92,2±13 kg. A significant decrease in fat % was detected in 4 subjects. Average values of % body fat were the first measurement of 33,7% ± 7,3 %, the second measurement of 32,6±5,8 %.

Key words: aerobic fitness, walking tests, overweight, obesity, physical activity